CONTROLLED DOCUMENT
This copy is uncontrolled if no red stamp is present on printed copies. Users are responsible for ensuring they work to the latest approved revision.

Los Alamos
National Laboratory

Risk Reduction and Environmental Stewardship Division

Meteorology and Air Quality Group
(RRES-MAQ)

Quality Assurance Project Plan

for the

Ozone Depleting Substances (ODS) Compliance Project

Prepared by: Steve Story Steve Story, Title V Implementation and ODS Team Leader	Date: 7/22/03
Reviewed by: Terry Morgan Terry Morgan, Quality Assurance Officer	Date: 7/17/03
Approved by: Jean M Dewart Jean Dewart, MAQ Group Leader	Date: 7/24/03

General Information

Table of Contents

General Information, continued

Appendixes

This plan has the following appendixes:

Number	Appendix Title	No. of pages
A	ODS Compliance Project Organization Chart	1
B	Refrigeration Interfaces	1
C	Ozone Depleting Substances Records	2
D	Refrigerant Compliance Manager Software Responsibilities	1
E	Summary of Reporting Requirements	1
F	References	2

History of revision

This table lists the revision history of this plan.

Revision	Date	Description Of Changes
0	8/13/03	New document.

Section 1

Quality Program

Organization

Purpose of this plan

This Quality Assurance Project Plan (QAPP) gives requirements for the management of the ODS Compliance Project within the Meteorology and Air Quality (MAQ) group. This document is tiered to the MAQ Quality Management Plan (MAQ-QMP), which, together with the implementing procedures, provides the requirements and processes that ensure the project effectively maintains LANL compliance with the project's areas of responsibility within all state and federal regulations governing Ozone Depleting Substances (ODSs).

This document also describes the roles and responsibilities of other LANL organizations for ODS compliance. This plan is not intended as a requirements document for these other LANL organizations whose roles and responsibilities are described herein. Requirements for ODS compliance in other LANL organizations is given in Criterion 408 of the LANL Operations and Maintenance Manual as required by LIR 230-05-01, "Operations and Maintenance Manual."

This plan also demonstrates compliance with DOE Order 414.1A, "Quality Assurance."

Scope of this plan

This plan addresses the requirements that pertain to MAQ's role in the implementation of Title VI of the Clean Air Act and DOE's goal to phase out class I ODS's by 2010.

Applicable regulations

The drivers for the development and implementation of the ODS Compliance Project are:

- Title VI of the CAA, Protection of Stratospheric Ozone
- 40 CFR 82, Subpart A, Production and Consumption Controls
- 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners
- 40 CFR 82, Subpart F, Recycling and Emissions Reduction
- 40 CFR 82, Subpart G, Significant New Alternatives Policy Program
- 40 CFR 82, Subpart H, Halon Emissions Reduction
- Executive Order 13148, Greening the Government Through Leadership in Environmental Management
- DOE Order 414.1A, Quality Assurance

Organization, continued

DOE Order 414.1A	Compliance with DOE Order 414.1A is a Department of Energy (DOE) requirement, rather than a regulatory requirement. The structure of this plan is based on and addresses the ten criteria in the DOE order.
MAQ group organization	The Meteorology and Air Quality Group (RRES-MAQ or MAQ) of the Risk Reduction and Environmental Stewardship (RRES) Division is responsible for the Ozone Depleting Substances Project at Los Alamos National Laboratory (LANL). See the Group MAQ Quality Management Plan (MAQ-QMP) for a description of the group organization and chain of authorities.
MAQ Project organization	The MAQ Ozone Depleting Substances Task Leader manages the operation of the project within MAQ to ensure that project objectives are met. The Task Leader reports to the Title V Implementation Team Leader. MAQ operates the project in cooperation with several other LANL organizations, described below. MAQ is the LANL subject matter expert for the Criterion 408 in the Operations and Maintenance manual.
FWO	FWO publishes requirements for refrigeration work under Criterion 408 of the Operations and Maintenance manual as spelled out in LIR 230-05-01, and manages the laboratory phase-out program. Facility management units own refrigeration equipment and are responsible for their day-to-day maintenance, operation, repair, and disposal.
CGPF	The Compressed Gas Processing Facility (CGPF) purchases ozone-depleting substances and distributes them to authorized users.
Pollution Prevention	The Pollution Prevention Office (in RRES Division) monitors LANL's progress on phase-out goals and submits quarterly ODS usage updates to DOE.
Support Services Subcontractor	LANL's Support Services Subcontractor (SSS) generally performs the day-to-day O&M work. Other LANL groups may hire outside contractors to perform refrigeration work. In these cases, outside contractors will adhere to regulatory requirements for refrigeration work.

Organization, continued

Project deliverables

The main deliverable or project purpose is a certification of lab-wide compliance with all ODS requirements. Specific reports that result from the project include:

- Annual Phase-Out Plan status report to DOE, Executive Order 13148 Requirement (submitted by FWO)
- ODS usage reports to support SARA 313

Revising this plan

The ODS Task Leader, the Title V Implementation Team Leader, the MAQ Quality Assurance Officer, and the MAQ Group Leader will approve all revisions to this plan.

Section 2

Personnel Development

Personnel Training and Qualification

Personnel requirements

Qualified MAQ ODS Compliance Project team members will be hired and trained as prescribed in the MAQ QMP. Personnel are required with knowledge in one or more of the following:

- Federal and State air quality regulations
- Data management principles, including databases, validation and verification, and legal defensibility
- Compliance assurance principles
- Stationary and motor vehicle air conditioning systems
- ODS's, in particular refrigerants and halons

Training

As required by the MAQ QMP, all personnel performing project-related work are required to obtain appropriate training prior to performing work governed by a procedure. The ODS Compliance Task Leader will determine training needs for MAQ personnel. Training to a procedure constitutes authorization for MAQ personnel to perform the work. Training for MAQ personnel will be performed and documented according to MAQ-024 ("Personnel Training") and MAQ-032 ("Orienting New Employees"). Training of personnel in other groups or organizations will be performed and documented according to each group's or organization's training procedures.

Support Services Subcontractor (SSS) personnel who perform work according to MAQ procedures will follow basic requirements of the MAQ quality assurance program and their training will be documented accordingly.

Section 3

Quality Improvement

Improving Project Quality

Project performance reports

Personnel assigned to perform ODS Compliance Project activities will provide periodic verbal or written updates to the Task Leader. These updates will be used by the Task Leader to determine project focus.

The Task Leader will provide periodic verbal or written updates to the Deputy Group Leader and/or Group Leader. These updates will be used to keep group management apprised of the focus of ODS Compliance Project activities and any project shortcomings.

The ODS Compliance Task Leader will prepare performance reports as needed. These performance reports will address items such as:

- Audit/assessment activities relating to quality assurance of ODS Compliance Project activities
- Problems or deficiencies identified during assessment activities or during routine performance of work
- Task accomplishments made toward ODS Compliance Project goals and deliverables

Performance report distribution

The following personnel receive copies of project performance reports:

- MAQ Group Leader
- MAQ Deputy Group Leader
- MAQ Quality Assurance Officer
- Title V Implementation Team Leader
- ODS Task Leader
- ODS Compliance Project personnel

Corrective actions within MAQ

Corrective actions for all MAQ projects will be initiated, tracked, corrected, and documented according to the MAQ Quality Management Plan and group procedure MAQ-026, “Deficiency Tracking and Reporting.”

Improving Project Quality, continued

Corrective actions within other organizations

Corrective action within other organizations will be documented and corrected according to the organization's procedures.

Deficiency trending

At least once a year, the ODS Compliance Task Leader reviews the MAQ deficiency reports to look for trends in the occurrence of deficiencies related to the ODS Compliance Project. Trending is intended to determine the existence of systematic design or implementation problems. The trending analysis results are documented in a memo or report, forwarded to the MAQ Group Leader and copied to the MAQ records management system.

Quality improvement

Project activities will adhere to the policy for continuous improvement as given in the MAQ QMP.

The MAQ Group Leader, Deputy Group Leader, ODS Compliance Task Leader, Title V Implementation Team Leader, and the MAQ Quality Assurance Officer will use performance reports and deficiency trending results to improve project processes.

Implementation

The following table lists specific responsibilities.

Who	What
ODS Task Leader	Annually trend deficiencies and, as necessary, implement appropriate changes in the project to correct systematic problems. Provide periodic written or verbal reports to the Group Leader.
Team members	Document all violations of requirements in deficiency reports according to MAQ-026.

Section 4

Documents and Records

Documents and Records

Policy

The ODS Compliance Project will maintain sufficient documents and records to demonstrate compliance with 40 CFR 82. The type and extent of records to be maintained are determined through this plan and its implementing procedures.

Document control

This plan is controlled through the MAQ document control procedure (MAQ-030, "Document Distribution"). The following personnel will be notified of revisions to this plan:

- MAQ Group Leader
- MAQ Deputy Group Leader
- Title V Implementation Team Leader
- ODS Compliance Project personnel
- MAQ Quality Assurance Officer
- Refrigerant Working Group Chair
- SSS Refrigerant Compliance Coordinator (RCC)
- SSS Environmental Coordinator

Procedures

Procedures will be developed as necessary and in accordance with the policy in the MAQ QMP and procedure MAQ-022 ("Preparation, Review and Approval of Procedures").

MAQ records series

Documentation of ODS Compliance Project activities are maintained as records by ODS Compliance Project personnel, under the direction of the MAQ Records Coordinator and in accordance with MAQ-025, "Records Management." These records are maintained in several series according to type of record and are usually arranged by Owner, equipment and year. An index of current record storage will be maintained in the records room. Appendix C lists the ODS records, who generates the record, where the record is maintained, and how long the record is retained.

Documents and Records, continued

Subcontractor records

Records from other organizations will be incorporated into the project files, as indicated in Appendix C.

Disposition and retention

Records will be submitted to the MAQ Records Management System and maintained for three years. After three years, the records may be transferred to permanent archives. Records are archived in compliance with LANL and DOE requirements for records retention, storage, and management.

Implementation

The following table lists specific responsibilities.

Who	What
ODS Task Leader	Ensure all personnel in the project are aware of the records that must be preserved.
ODS team members	Ensure all records listed above are properly collected, filed, and preserved.

Electronic Media

Policy

The ODS Compliance Project will utilize electronic means to maintain data and perform calculations on these data. Electronic means will not replace paper copy. All records that must be maintained to meet the applicable requirements will be kept in hard copy as the official record.

Databases

Backups – The Refrigerant Compliance Management (RCM) database used to hold data and generate reports used to demonstrate compliance will be maintained on a RRES Division Server. RCM will be backed up daily to minimize potential losses of data.

Software control – The integrity of all databases will be ensured by maintaining them on either a RRES Division server or on the MAQ databases drive. This will enable the ODS Compliance Task Leader to control access to these databases to only trained authorized persons. See the MAQ QMP for additional information on software quality assurance.

Implementation

The following table lists specific responsibilities.

Who	What
ODS team members	Ensure that all database calculations are verified and validated for accuracy in compliance with the requirements above. Ensure all databases are properly backed up in compliance with the requirements above.

Section 5

Work Processes

5.1 Planning and Performing Work

Purpose of ODS work processes

The ODS Compliance Project performs work to demonstrate compliance with the requirements of Title VI of the Federal Clean Air Act and to phase-out the use of class I ODS.

Policy

Work that contributes to achieving the quality specifications of ODS Compliance Project deliverables will be planned, performed, and documented as stated in this plan and appropriate implementing procedures (see MAQ-QMP, Section 5 and MAQ-035, "Work Safety Review and Authorization"). The ODS Compliance Task Leader will provide first-line supervision of personnel assigned to project tasks to ensure work is performed to achieve project quality specifications. Work planning will be consistent with the principles of Integrated Safety Management (ISM) and in compliance with LIR 300-00-01, "Safe Work Practices"; LIR 300-00-02, "Documentation of Safe Work Practices"; and work-planning requirements in MAQ-QMP.

Work process description

The work processes included in this section are divided into eight areas:

5.2 Regulatory Analysis
5.3 Purchase, Control & Disposal of Refrigerants
5.4 Prohibition on Venting Refrigerants
5.5 Stationary Refrigeration Equipment
5.6 Motor Vehicle Air Conditioning
5.7 Halons
5.8 Essential Laboratory and Analytical Use Exemption
5.9 Phase-Out Programs

5.2 Regulatory Analysis

Policy

The purpose of regulatory analysis is to maintain accurate and up-to-date knowledge of all existing, new, and proposed air quality regulations and determine their potential applicability to sources at LANL.
Periodic applicability determinations will be conducted for new regulations promulgated by EPA. Periodic review of new LANL operations will determine applicability status of Federal regulations. All applicability determinations will be documented. Analysis will be conducted to determine the need for the development of compliance initiatives and strategies (e.g., Laboratory Implementing Requirements (LIRs), record keeping, reporting, permitting, etc).

Requirements

The MAQ Group will maintain knowledge of all existing, new, and proposed air quality regulations covered under Title VI of the CAA and promulgated in the following 40 CFR 82 Subparts:

Subpart A – Phase-of Ozone Depleting Substances – Production and Consumption Controls
Subpart B – Servicing of Motor Vehicle Air Conditioners
Subpart C – Nonessential Products Rule
Subpart D – Federal Procurement
Subpart E – Labeling Requirements
Subpart F – Recycling and Emissions Reduction Rule
Subpart G – Significant New Alternatives Policy Program
Subpart H – Rule for Manufacture of Halon Blends, Intentional Release of Halon, Technician Training and Disposal of Halon and Halon-containing Equipment

Note on requirements

Subparts C, D, and E are listed above and not in Section 1 because LANL must maintain expertise on these regulations in order to conduct reviews for new projects or applicability of new or modified operations.

Implementation

The following table lists responsibilities.

Who	What
ODS Task Leader	Perform and document applicability determinations of new regulations promulgated by EPA.
ODS Team members	Review new and/or modified Laboratory operations identified through ESH-ID's to determine applicability of Federal regulations. Document these reviews through the ESH-ID process.

5.3 Purchase, Control and Disposal of Refrigerants

Policy

EPA regulates the production, distribution, use, and disposal of ODS's and their approved substitutes. LANL controls the availability and use of these substances to comply with EPA requirements. LANL disposes of excess and contaminated refrigerants according to EPA and DOE requirements.

Refrigerants will be purchased through the CGPF from authorized distributors and controlled so that they are available only to certified technicians. Records of purchase will be entered into both the LANL Chemical Inventory System and RCM. Excess refrigerants will be transferred or disposed of in accordance with DOE's publication "A Plan and Guidance to Implement EO 13148 Requirements to Achieve Ozone-Depleting Substance Reductions."

Requirements

40 CFR 82 Subpart F lists requirements for the sale, use and disposal of refrigerants. In addition, LANL and DOE place requirements on the safe handling of compressed gases. These requirements include:

Purchase

- Refrigerants will only be sold to certified technicians; LANL may provide evidence to refrigerant suppliers that LANL employs certified technicians.
- Compressed gases will only be purchased through the CGPF.

Use

- Only EPA certified technicians will use refrigerants; access to refrigerant shall be controlled.
- Refrigerant may be returned to the appliance from which it is recovered or to another appliance owned by DOE without being recycled or reclaimed.
- Refrigerant will be stored and transported in a safe manner.

Excess

- Refrigerants are considered government property and shall be disposed of in accordance with EO 13148, "Greening the Government Through Leadership in Environmental Management." DOE's guidance document, "A Plan and Guidance to Implement EO 13148 Requirements to Achieve Ozone-Depleting Substance Reductions," provides guidance on transferring or disposing of excess refrigerants.

5.3 Purchase, Control and Disposal of Refrigerants, continued

LANL controls – procurement

In accordance with LIR 402-1200-01 ("Pressure, Vacuum and Cryogenic Systems"), all pressurized gases, including refrigerants, shall be purchased through the gas plant (CGPF). LANL has placed restrictions on credit card purchases to exclude the purchase of all chemicals. In addition, Just-In-Time (JIT) procurement process defers the purchase of most compressed gases, including refrigerants, to the CGPF.

LANL controls – safe handling

Persons who handle or use refrigerants will comply with the requirements of LIR 402-1200-01 ("Pressure, Vacuum and Cryogenic Systems"), for instructions on the safe handling of refrigerant cylinders and the requirements for testing and inspection.

Records

Information from the following records are used to track refrigerants:

- CGPF purchase records; LANL chemical tracking system.
- Refrigerant Cylinder Action Form, in MAQ-312.
- Refrigerant SSS Service Order Form, in MAQ-312 (Section 6.0 Refrigerant Tracking Information).
- Refrigerant Appliance Salvage/Disposal Log, in MAQ-312 (Refrigerant Type/Refrigerant Extracted).

Refrigerant usage reports

The Refrigerant usage report (SARA 313) tracks LANL's purchase, use, and disposal of refrigerants for a specified time period, such as quarterly or annually. Data for this report may be generated from RCM using these reports:

- RCM Refrigerant Purchases Report [by refrigerant, during specified time period]
- RCM Refrigerant Usage Report [by refrigerant, during specified time period]
- RCM Refrigerant Disposals Report [by refrigerant, during specified time period]

5.3 Purchase, Control and Disposal of Refrigerants, continued

Refrigerant Accountability Report

The Refrigerant Accountability Report may be generated as needed from usage reports and a wall-to-wall inventory for each refrigerant, according to the following calculations:

*Percent Accountability = [Final Inventory / Expected Inventory] * 100%*

Where 'final inventory' is the result of a wall-to-wall inventory of refrigerants and
Expected Inventory =
Beginning Inventory + Purchases – Usage – {Disposal & Transfers}

Implementation

The following table lists responsibilities.

Who	What
CGPF	Purchases refrigerants from authorized vendors. Maintains purchase records of all refrigerant purchased. Enters refrigerant information into LANL's Chemical Tracking System. Issues refrigerants only to individuals on the SSS technicians letter, or others with documented justification and need (e.g., for essential laboratory and analytical use). Attaches MAQ-312 Cylinder ID Tag to new cylinders, and notifies MAQ of all purchases.
MAQ	Reviews new requests to the CGPF for refrigerant purchases. Enters purchase, use, and disposal information into the RCM database. This task, or portions of, may be delegated to the SSS. Periodically assesses the SSS refrigerant inventory against RCM data. Generate reports, such as 'refrigerant usage' and 'refrigerant accountability', as needed.

5.3 Purchase, Control and Disposal of Refrigerants, continued

Who	What
Support Services Subcontractor	Maintains current letter at CGPF with names and certificate numbers of certified technicians (stationary and motor vehicle). If desired, letter may contain names of authorized representatives. Maintains control and accountability of refrigerant inventory Periodically performs audit checks of refrigerant inventory. Provide MAQ with documentation on refrigerant use, transfers, and disposal using the following MAQ-312 forms: • Refrigerant SSS Service Order Form. • Refrigerant Appliance Salvage/Disposal Log Form. • Refrigerant Cylinder Action Form.
Technicians	Completes MAQ-312 forms to document use, transfer and disposal of refrigerants: • Refrigerant SSS Service Order Form. • Refrigerant Appliance Salvage/Disposal Log Form. • Refrigerant Cylinder Action Form. Maintains control of assigned refrigerants.

5.4 Prohibition on Venting Refrigerants

Policy

Title VI of the Clean Air Act requires that emissions of ozone depleting substances be kept at "*de minimus* releases associated with good faith attempts to recover or recycle." Intentionally venting refrigerants to the atmosphere is prohibited.

LANL has adopted a 'no vent' policy for all refrigerants. LANL's Support Services Subcontractor (SSS) has also adopted this policy. LANL documents all refrigerant use on maintenance, service, repair, and disposal forms to demonstrate that refrigerants are not vented.

Requirements

According to 40 CFR 82.154, no person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any class I or class II substance used as a refrigerant. As of November 1995, this prohibition also applies to substitute refrigerants [Title VI Section 608 paragraph (c)(2)]. *De minimus* releases associated with good faith attempts to recycle or recover refrigerants are not subject to this prohibition. Releases are considered *de minimus* if they occur when EPA-required practices are observed and recovery or recycling machines that meet EPA requirements are used.

Known venting interpretation

Known venting is any release that permits a refrigerant to enter the environment and that takes place with the knowledge of the technician during the maintenance, service, repair, or disposal of air-conditioning or refrigeration equipment. Known venting does not prohibit "topping off" systems, which leads to emissions of refrigerant during the use of equipment. Equipment may leak during use. EPA has set annual leak rate trigger limits that dictate when systems must be repaired or replaced. The provision for known venting, however, does include situations in which a technician is practically certain that his/her actions will cause a release of refrigerant during the maintenance, service, repair, or disposal of equipment. It also includes situations in which the technician shields him or herself from 'obvious facts' or fails to investigate when aware of facts that should dictate an investigation.

Accidental release interpretation

Accidental refrigerant releases are refrigerant releases not associated with mechanical failures of the unit. Human-caused accidental damage to a refrigerant line, such as a forklift or nail penetration, would be considered accidental. Excessive vibration in a unit, which leads to line rupture, would not be an accidental release.

5.4 Prohibition on Venting Refrigerants, continued

Records

Information from the following records are used to track refrigerant equipment work:

- Refrigerant SSS Service Order Form
- Section 4.0 Service Information

Reports

The following reports may be generated as needed as a result of this process:

- Refrigerant Usage Report, from Section 5.3.1
  MAQ uses this report to demonstrate that refrigerants are not vented. Our goal in tracking all refrigerant use is to account for 97% of refrigerant procured.

- RCM Accidental Release Report
  Occasionally, accidental releases of refrigerant occur. These releases will be documented on the MAQ-312 Service Form.

Implementation

The following table lists responsibilities.

Who	What
MAQ	Maintains records of accidental releases, which are documented on the Service Order form in MAQ-312. Generates refrigerant usage report. Periodically reviews accidentally release report.
Support Services Subcontractor	Establishes a no-vent policy.
Technicians	Ensure that refrigerants are not vented to the atmosphere. Document accidental refrigerant releases to the atmosphere using LANL procedure MAQ-312.

5.5 Stationary Refrigeration Equipment

Policy

Title VI of the Clean Air Act mandates the phased elimination of ODSs and requires controls on operations, maintenance, repair, and disposal to minimize emissions of ozone-depleting refrigerants to the atmosphere.

LANL issues regulatory requirements through the laboratory LIR process. LIR 230-05-01, "Operations and Maintenance Manual", establishes the Operations and Maintenance manual, which contains Criterion 408, EPA Compliance for Refrigeration Equipment. Criterion 408 lists the requirements for facility management and owners of refrigeration equipment to follow for refrigerant compliance. MAQ publishes procedures for maintaining, servicing, repairing, and disposing of refrigeration equipment. MAQ also maintains an inventory of equipment at LANL and maintains the institutional compliance database. LANL's Support Services Subcontractor (SSS) employs EPA-certified technicians and performs maintenance, service, repair, and disposal on refrigeration equipment using EPA certified recovery equipment and service practices. The SSS has developed a Refrigerant Management Plan. A diagram of LANL's stationary refrigeration equipment program is presented in Appendix B. Some work is performed by outside contractors. Outside contractors are also indicated on the diagram in Appendix B.

Requirements

EPA's requirements for refrigeration work are promulgated in 40 CFR 82 Subpart F. These requirements include:

- Certified recovery and/or recycling equipment
- Technician certification
- Use of EPA service practices
- Leak repair
- Equipment/Appliance Inventory
- Equipment/Appliance Disposal, Replacement, or Retrofit
- Certification to EPA

5.5.1 Certified Recovery and Recycling Equipment

Policy

EPA-certified recovery and/or recycling equipment, equipped with low-loss fittings, will be used to perform any refrigeration work that involves the evacuation of refrigerants. This ensures that emissions of refrigerants are as low as possible.

Requirements

All refrigerant recovery and/or recycling equipment must be certified by an EPA-approved testing organization if manufactured on or after November 15, 1993. The manufacturer will attach a label to the equipment which states:

> THIS EQUIPMENT HAS BEEN CERTIFIED BY (Approved Equipment Testing Organization) TO MEET EPA's MINIMUM REQUIREMENTS FOR RECYCLING OR RECOVERY EQUIPMENT INTENDED FOR USE WITH (Appropriate Category Of Appliance/Equipment).

Equipment manufactured before this date must meet EPA criteria. All recovery or recycling equipment shall be used in accordance with the manufacturer's directions unless such directions conflict with EPA requirements.

Low-loss fittings

Low-loss fittings will be used on all LANL recovery equipment, including hoses and gauges. Low-loss fittings are required by EPA, and are defined as any device that is intended to establish a connection between hoses, appliances, or recovery or recycling machines and that is designed to close automatically or to be closed manually when disconnected, minimizing the release of refrigerant from hoses, appliances, and recovery or recycling machines.

Reports

The following reports may be generated as needed as a result of this process:

- RCM Recovery & Recycling Equipment Report

Implementation

The following table lists responsibilities.

Who	What
MAQ	Periodically assesses recovery and/or recycling equipment to ensure manufacturer applied EPA certification labels are attached. Periodically reviews RCM recovery and/or recycling equipment module to ensure information is up-to-date and accurate.

5.5.1 Certified Recovery and Recycling Equipment, continued

Who	What
Support Services Subcontractor	Maintains the recovery and/or recycling equipment module in RCM. Maintains a current inventory of recovery / recycling equipment in RCM, and document certification tests as required. Develops maintenance programs, to include documentation, for recovery / recycling equipment if required by the manufacturer. Attaches the most current EPA evacuation chart to each operable recovery and/or recycling unit.
Technicians	Follows manufactures instruction when using certified recovery and/or recycling equipment as required by EPA. Will not modify certified recovery and/or recycling equipment. Use low-loss fittings wherever possible on hoses and other equipment.

5.5.2 Technician Certification and Training

Policy

Only EPA certified and properly trained technicians can perform work on the refrigeration circuit of refrigeration equipment. In addition, technicians must also be trained to procedures before any work on refrigeration equipment at LANL is performed. All training will be documented.

Requirements

Technicians servicing air conditioning and refrigeration equipment shall be EPA certified for the type of work performed. EPA certification levels include Type I, II, III, and Universal. EPA defines certifications levels as:

- Type I – Small Appliances
- Type II – High Pressure Appliances (e.g., CFC-12, HCFC-22)
- Type III – Low Pressure Appliances (e.g., CFC-11, HCFC-123)
- Universal – Type I, II, and III

Note: The technician certification required to perform work on stationary refrigeration equipment is different than the technician certification required to perform work on motor vehicle air conditioners.

Clarification of technician

Performing maintenance, service, repair, or disposal could be reasonably expected to release refrigerants only if the activity is reasonably expected to violate the integrity of the refrigerant circuit. Activities reasonably expected to violate the integrity of the refrigerant circuit include activities such as attaching and detaching hoses and gauges to and from the appliance/equipment to add or remove refrigerant or to measure pressure and adding refrigerant to and removing refrigerant from the appliance/equipment. Activities such as painting the appliance/equipment, re-wiring an external electrical circuit, replacing insulation on a length of pipe, or tightening nuts and bolts on the appliance/equipment are not reasonably expected to violate the integrity of the refrigerant circuit. Performing maintenance, service, repair, or disposal of an appliance/equipment that have been evacuated according to EPA requirements could not be reasonably expected to release refrigerants from the appliance/equipment unless the maintenance, service, or repair consists of adding refrigerant to the appliance/equipment.

Records

Information from the following records are used to track technician certification and refrigerant training:

- Technician EPA Certification Certificates

5.5.2 Technician Certification and Training, continued

Reports

The following report may be generated as needed as a result of this process:

- RCM Technician Report

Implementation

The following table lists responsibilities.

Who	What
MAQ	Maintains copies of technician EPA certification certificates in the ODS Compliance Project files.
Support Services Subcontractor	Ensures all technicians are appropriately certified. Ensures all technicians' training is up-to-date. Maintains copies of technician EPA certification certificates and forwards copies to MAQ. Maintains documentation of technician training to other relevant courses or procedures. Maintains RCM Technician module; due to privacy issues, do not include certification numbers which use social security numbers in RCM.
Technicians	Keeps a copy of their certificate at their place of business.

5.5.3 Required Service Practices

Policy

To ensure refrigerant emissions are kept as low as possible, all maintenance, service, repair and disposal will be performed in accordance with EPA required service practices.

As required by Criterion 408 of the Operations and Maintenance manual, the Support Services Subcontractor (SSS) must follow MAQ-312 while performing any maintenance, service, repair, or disposal of refrigeration equipment. The documentation in this procedure demonstrates that EPA service practices are followed.

Requirements

No person may open appliances for maintenance, service, repair, or disposal without observing EPA's required service practices promulgated in 40 CFR 82 Subpart F and without using equipment that is certified for that type of appliance.

Refrigeration equipment disposal

LANL disposes of refrigerant equipment in one of four ways:

1. SSS salvage process;
   - small appliances
2. Facility Management retrofit/replacement
   - stationary equipment removed by contractor
   - stationary equipment abandoned in-place
3. Facility demolition and decontamination
4. Disposal of contaminated equipment at TA-54

When refrigeration equipment is evacuated of all refrigerants and oil prior to disposal, the **refrigeration** technician applies an evacuation label to the equipment for verification that all refrigerant and oil was removed.

Small appliance salvage process

The SSS has a process in place at Salvage for handling small appliances. Refer to the SSS Small Appliance salvage procedure.

5.5.3 Required Service Practices, continued

SSS Work Order report

The work orders report tracks work orders performed by SSS certified refrigerant technicians. This is a tool to allow the Title VI program to assess whether the SSS is providing MAQ with all of the appropriate service records. MAQ can generate this report on a weekly basis when required and import data from a text file into an MS Access® database for analysis.

Outside contractor report

The outside contractor report captures refrigerant services performed by outside contractors and captures the procurement of new refrigerant appliances/equipment. This report is based on capturing those purchase orders from the Laboratory's procurement system containing certain codes, such as:

- FSC Codes 4110,4140, 4100, 4120 that help track the purchase of refrigerant appliances/equipment;
- Action Code 8 for all maintenance, service, and repair orders of this equipment; and
- Appropriate 41 series FSC code on the maintenance or repair order and a message code on maintenance and repair order that requires invoice approval before payment.

The report is run by MAQ when required. The report can be queried by date and downloaded to an MS Access® database for analysis.

Records

Information from the following records are used to track refrigerant leaks:

- Refrigerant SSS Service Order Form

Implementation

The following table lists responsibilities.

Who	What
MAQ	Publishes updates to MAQ-312. Maintains the institutional Title VI administrative record. Inputs the Service Record information into RCM. Provides performance feedback to the SSS via the Performance Measure program. Generate and review 'Work Order Report' and 'Outside Contractor Report.'
SSS	Reviews completed Service Records for completeness and accuracy then forwards them to MAQ.

5.5.3 Required Service Practices, continued

Who	What
Refrigeration Technicians	Should wear the EPA Table 1 evacuation chart on their LANL badge. Follow requirements in MAQ-312 for all maintenance, service, repair, or disposal of appliances. Accurately and completely fill out Service Record forms for all covered maintenance, service, repair, and disposal.

5.5.4 Leak Repairs

Policy

To ensure refrigerant emissions are kept as low as possible, repairs will be made to refrigeration systems when leaks exceed EPA trigger levels.

If a leak is found on ANY appliance/equipment being serviced, the **refrigeration** technician notifies MAQ within one working day (24 hours) of discovering the leak(s) through the SSS RCC. LANL shall repair all leaks that exceed EPA's trigger rate, and will attempt to repair all other leaks.

Requirements

Equipment containing 50 or more pounds of refrigerant must have leaks repaired when:

- Annual leak rate exceeds 15% of full charge capacity for comfort cooling appliances.
- Annual leak rate exceeds 35% of full charge capacity for industrial process and commercial cooling appliances.

Leaks must be repaired within 30 days for comfort/commercial cooling, and 120 days for industrial process cooling when an industrial process shutdown must occur. If leaks cannot be repaired, a dated retrofit / retirement plan must be developed. This plan must be in place within 30 days of discovering the leak and the system must be retired / retrofitted within one year. With prior EPA approval, additional time may be available to repair leaks or to retire/retrofit systems.

Mothballing

EPA defines system mothballing as "the intentional shutting down of a refrigeration appliance undertaken for an extended period of time by the owners or operators of that facility, where the refrigerant has been evacuated from the appliance or the affected isolated section of the appliance, at least to atmospheric pressure."

LANL will mothball systems when repairs cannot be completed within the required EPA timeframe and the intentional shutting down of the system will not adversely affect the mission. The decision to mothball or to request additional time for repairs will be made by the equipment owners with input from MAQ and the refrigeration technicians.

5.5.4 Leak Repairs, continued

Records

Information from the following records are used to track refrigerant leaks:

- Refrigerant SSS Service Order Form, Section 5.0 Leak Information

Reports

The following reports are generated as a result of this process:

- RCM Unrepaired Leak Report
- RCM Current Leak Rate Report
- RCM Historical Leak Rate Report

Implementation

The following table lists responsibilities.

Who	What
MAQ	Calculates the leak rate using RCM's leak rate calculator. Informs facility management if the leak rate exceeds the acceptable limits for the appliance/equipment. Advises facility management of EPA timelines and requirements. Assists facility management with development of written retrofit/replacement plan when required; attaches plan to RCM equipment records.
SSS	Notifies MAQ within one day of leak discovery. Works with facility management to schedule and repair leaks.
Refrigeration Technicians	Documents leak information on Service Order form. Notifies RCC within 24 hours when a leak is discovered that cannot be repaired at the time of discovery; if leak can be repaired, notes repair on Service Order and submits within three days.
Facility Managers	Schedule and fund work orders so that leaks are repaired within the EPA timeline. Make decisions on mothballing or requesting additional time for repairs for systems that cannot be repaired within the EPA timeframe. If leaks cannot be repaired, develop a dated retrofit / retirement plan.

5.5.5 Refrigeration Equipment Inventory

Policy

An accurate inventory of refrigeration equipment is required to manage a refrigeration compliance program and plan for DOE phase-out of class I refrigerants.

The MAQ-311 Appliance/Equipment Inventory Form should be used whenever an inventory of any newly installed or existing refrigeration appliance/equipment is conducted. A spreadsheet report or printed forms from RCM may be used when validating or verifying the existing inventory.

Requirements

Equipment owners will develop an accurate inventory of refrigeration equipment. At a minimum, this inventory will include the appliance identifier, refrigerant type (e.g., CFC-11, CFC-12, etc.), the full charge capacity of the system, method used to determine full charge, the appliance duty type (industrial process, comfort cooling, or commercial), and the type of appliance (chiller, split system, packaged, etc.).

Definition of small appliances

Small appliance means any of the following products that are fully manufactured, charged, and hermetically sealed in a factory with five (5) pounds or less of refrigerant:

- refrigerators and freezers designed for home use, room air conditioners (including window air conditioners and packaged terminal air conditioners)
- packaged terminal heat pumps
- dehumidifiers
- under-the-counter ice makers
- vending machines
- drinking water coolers.

Clarification on inventory of small appliances

An inventory of small appliances/equipment is not required. LANL will track progress toward DOE's phase-out goals for small appliances by trending disposal numbers through salvage. Refrigerant usage during maintenance, service, and repair of small appliances will be tracked using the 'refrigerant specific small appliance inventory category' for each Division.

5.5.5 Refrigeration Equipment Inventory, continued

Records

Information from the following records are used to track LANL's refrigeration equipment inventory:

- MAQ-311 Refrigeration Equipment Inventory Form

Reports

The following reports are generated as a result of this process:

- RCM Equipment Inventory

Implementation

The following table lists responsibilities.

Who	What
MAQ	Maintains LANL refrigeration equipment inventory information in RCM.
SSS	Support LANL inventory efforts; document inventory using MAQ-311, "Refrigeration Equipment Inventory."
Equipment Owners	Develop, or support MAQ in developing, an accurate refrigeration equipment inventory.

5.5.6 Certification to EPA

Policy

To ensure owners and/or operators of refrigeration equipment are complying with 40 CFR 82 Subpart F, EPA requires that all owners and/or operators certify that they have purchased refrigerant recovery or recycling equipment and that they are following EPA's service practices. LANL submitted EPA's Refrigerant Recovery or Recycling Device Acquisition Certification Form on June 4th, 1993. A copy of LANL's certification is available in the ODS record series. No further actions take place for this process.

Requirements

From 40 CFR 82.162, persons maintaining, servicing, repairing or disposing of appliances except for motor vehicle air conditioners must certify to EPA that they acquired certified recovery or recycling equipment and that they are complying with the applicable requirements of 40 CFR 82 Subpart F.

Records

The following record was submitted to EPA, as described above:

- EPA's Refrigerant Recovery or Recycling Device Acquisition Certification Form

5.6 Motor Vehicle Air Conditioning

Policy

To reduce emissions of refrigerants during the maintenance, service, and repair of motor vehicle air conditioners. This section does not cover hermetically sealed refrigeration systems using HCFC-22.

LANL's Support Services Subcontractor (SSS) performs maintenance, service, and repair of air conditioners on LANL's motor vehicle fleet. All records will be maintained at the motor vehicle/heavy equipment shop and be made available for inspection. LANL does not dispose of motor vehicle air conditioners.

Requirements

EPA has promulgated requirements for the maintenance, service, and repair of motor vehicle air conditioning systems under 40 CFR 82 Subpart B. These requirements include:

- Technician certification
- Recovery / recycling equipment certification
- Proper use of recovery / recycling equipment
- Refrigerant purchases
- Refrigerant disposal
- Certification to EPA
- Record keeping

Proper use of recovery & recycling equipment

EPA defines proper use of recovery and recycling equipment to mean using such equipment in conformity with the regulations of 40 CFR 82 Subpart B, to include the prohibitions. In addition, the technician must follow the recommended service procedures and practices for the containment of refrigerant set forth in 40 CFR 82 Subpart B appendices A, B, C, D, E, and F, as applicable. The term also includes operating the equipment in accordance with the manufacturer's guide to operation and maintenance and using the equipment only for the controlled substance for which the machine was designed.

5.6 Motor Vehicle Air Conditioning, continued

Records

Maintain records on-site indefinitely:

- Refrigerant Recovery or Recycling Device Acquisition Certification Form submitted on June 4th, 1993.
- Technician Certification certificates, for all operators

Maintain records on-site for three years:

- Service orders, indicating refrigerant use
- Refrigerant purchases
- Refrigerant disposal, including names and addresses where sent

Implementation

The following table lists responsibilities.

Who	What
MAQ	Maintains procedure MAQ-335, Servicing of Motor Vehicle Air Conditioners. Maintains copy of: • Refrigerant Recovery or Recycling Device Acquisition Certification Form • Technician Certification certificates, for all operators • Certified recovery and recycling equipment inventory Maintains records of: • Refrigerant purchases • Refrigerant disposal
SSS Motor Vehicle Shop	Maintains refrigerant filing system, available for inspection, which includes: • Refrigerant Recovery or Recycling Device Acquisition Certification Form • Technician Certification certificates, for all operators Provides MAQ with certified recovery and recycling equipment inventory. Controls availability of refrigerants to certified technicians. Disposes of refrigerant in accordance with the SSS Refrigerant Management Plan.

5.6 Motor Vehicle Air Conditioning, continued

Who	What
Motor Vehicle Service Technicians	Follow requirements in MAQ-335 for all maintenance, service, repair, or disposal activities. Properly uses refrigerant recovery and recycling equipment. Documents refrigerant use on vehicle service records. Accurately and completely fill out Service Record forms for all covered maintenance, service, and repair.
SSS	Maintains current list of certified motor vehicle technicians with CGPF (gas plant). Assists motor pool with refrigerant disposal, as required.

5.7 Halons

Policy

EPA regulates certain practices involving halons with the purpose of minimizing their unnecessary release and maximizing their recovery and recycling.

All LANL work on halon systems is coordinated through the Support Services Subcontractor (SSS) maintenance department. Only trained technicians work on halon systems.

Requirements

EPA has promulgated regulations for halons in 40 CFR 82 Subpart H. These requirements include:

- A ban on the intentional release of halons during repair, testing, and disposal of equipment containing halons and during technician training.
- Providing technicians with emissions reduction training.
- Properly disposing of halons and equipment containing halons.

Records

Information from the following records are required:

- Documentation of Training

Implementation

The following table lists responsibilities.

Who	What
MAQ	Assesses SSS technician training plan, to include documentation of training.
SSS	Develops a technician training plan which satisfies the requirements of 40 CFR 82 Subpart H, as described in EPA's "Guidance for the EPA Halon Emission Reduction Rule." Documents technician training. Allows only trained technicians to perform work on halon systems. Disposes of excess halon either through the DOE halon repository at Savannah River, or through a facility that operates in accordance with NFPA standards 10 and 12A.
Technicians	Do not vent halons. Recover halons from equipment before disposal.

5.8 Essential Laboratory and Analytical Use Exemption

Policy

Through December 31, 2005, EPA is allowing an exemption for the production and importation of new class 1 ODS's for "essential laboratory and analytical use." This exemption is subject to the restrictions on the definition of "essential laboratory and analytical use," and is subject to EPA record keeping and reporting requirements. There is no amount specified for this exemption.

Requirements

Laboratory customers purchasing a controlled substance under the global laboratory essential-use exemption must provide the producer, importer, or distributor with a one-time-per-year certification for each controlled substance that the substance will only be used for essential laboratory and analytical uses and not be resold or used in manufacturing. The certification must also include [Appendix G to Subpart A of 40 CFR 82]:

- The identity and address of the laboratory customer.
- The name and phone number of a contact person for the laboratory customer.
- The name and quantity of each controlled substance purchased, and the estimated percent of the controlled substance that will be used for each listed type of laboratory application.

Definition of essential laboratory and analytical use

Essential laboratory and analytical uses are identified at this time to include equipment calibration; use as extraction solvents, diluents, or carriers for chemical analysis; biochemical research; inert solvents for chemical reactions, as a carrier or laboratory chemical, and other critical analytical and laboratory purposes. Pursuant to Decision XI/15 of the Parties to the Montreal Protocol, effective January 1, 2002, the following uses of class I controlled substances are not considered essential under the global laboratory exemption:

- Testing of oil and grease and total petroleum hydrocarbons in water.
- Testing of tar in road-paving materials.
- Forensic finger printing.

Records

The following record is generated as a result of this process:

- EPA Essential Use Certification Letter

Implementation

The following table lists responsibilities.

5.8 Essential Laboratory and Analytical Use Exemption, continued

Who	What
CGPF	Issues ODSs only to laboratory customers with properly completed exemption certification letter.
MAQ	Review requests for purchase from the CGPF and document acceptable use. Retain records and copies of reports required by this section three years. Track LANL usage.
Laboratory customers	Complete EPA certification letter for CGPF, when necessary.

5.9 Phase-Out Programs

Policy

EPA has phased out the production of class I ozone-depleting substances, including refrigerants and halons. EO 13148, "Greening the Government through Leadership in Environmental Management," requires that DOE sites phase-out the use of class I ozone-depleting substances. LANL has developed phase-out plans for both class I refrigerants and halons.

Ozone depleting phase-out projects are coordinated through FWO. FWO, which chairs LANL's Refrigerant Working Group, assist equipment owners with retrofit and replacement designs.

Requirements

EO 13148, "Greening the Government through Leadership in Environmental Management," requires that DOE sites phase out the use of class I ozone-depleting substances. This order requires that DOE sites:

1. Retrofit or replace by 2005 100 percent of chillers greater than 150 tons of cooling capacity and manufactured before 1984 that use class I refrigerants.
2. Eliminate use of class I ozone depleting substances by 2010, to the extent economically practicable, and to the extent that safe alternative chemicals are available for DOE class I applications.

Reports

The following reports are generated as a result of this process:

- Annual Progress Report to DOE on ODS Phase-out
- RCM Refrigerant Equipment Inventory by Refrigerant Type

Implementation

The following table lists responsibilities.

Who	What
MAQ	Maintains accurate inventory of refrigeration systems in the RCM database.
FWO	Submits annual progress report to DOE by December 1st of each year. Reports project success stories to DOE. Assists equipment owners with retrofit / replacement plans.
Pollution Prevention	Reports progress to DOE under Appendix F of the UC contract.
Equipment Owners	Develops plans to replace and/or retrofit applicable systems, with assistance from FWO.

Section 6

Design

Design

Policy

The ODS Compliance Project will support facility design efforts to install, replace or retrofit building air conditioning systems. MAQ will not assume (or be given) responsibility for the function of the HVAC system design beyond consultations on refrigerant selection. LANL HVAC system designs are the responsibility of FWO and /or PM Divisions.

Documentation

All input provided to facility and/or engineering personnel will be in writing. Additional documentation that will be required to be maintained in the ODS Compliance Project records will be:

- Written documentation of technical peer review, including areas reviewed and outcome.
- Any correspondences between project personnel and the facility and/or engineering personnel.

Section 7

Procurement

Procurement

Policy

The ODS Compliance Project will procure items and services from qualified persons and/or organizations as needed to accomplish project goals.

Procurement of items and services

Procurement of items and services used in the ODS Compliance Project will follow the Laboratory procurement process and the requirements in the MAQ-QMP. Most items and services required for the project are commercial grade in nature and not special procurement requirements or needs are necessary. For items and all services for which special requirements are necessary, the project lead and project members will identify such items or services.

Section 8

Inspection and Acceptance Testing

Inspection and Acceptance Testing

Policy

Materials or services will be inspected and/or tested prior to acceptance for use in the ODS Compliance Project. Most supplies used during performance of ODS activities are commercial grade in nature and require no special acceptance practices or procedures. For any materials that need inspection and acceptance testing, acceptance criteria will be documented and communicated to the supplier. Testing methods and test results will be documented and preserved as records.

Section 9

Management Assessment

Internal Management Assessments

Internal assessments

MAQ conducts internal management assessments of all projects and programs in the group in accordance with requirements in the MAQ Quality Management Plan and procedure MAQ-029 ("Management Assessments"). Assessments of the project will be documented and filed as records.

Responding to assessments

When violations of requirements are found during a management assessment, a deficiency report will be initiated to document the violation. Corrective actions will be tracked and documented in accordance with MAQ-026 ("Deficiency Reporting and Correcting").

Section 10

Independent Assessment

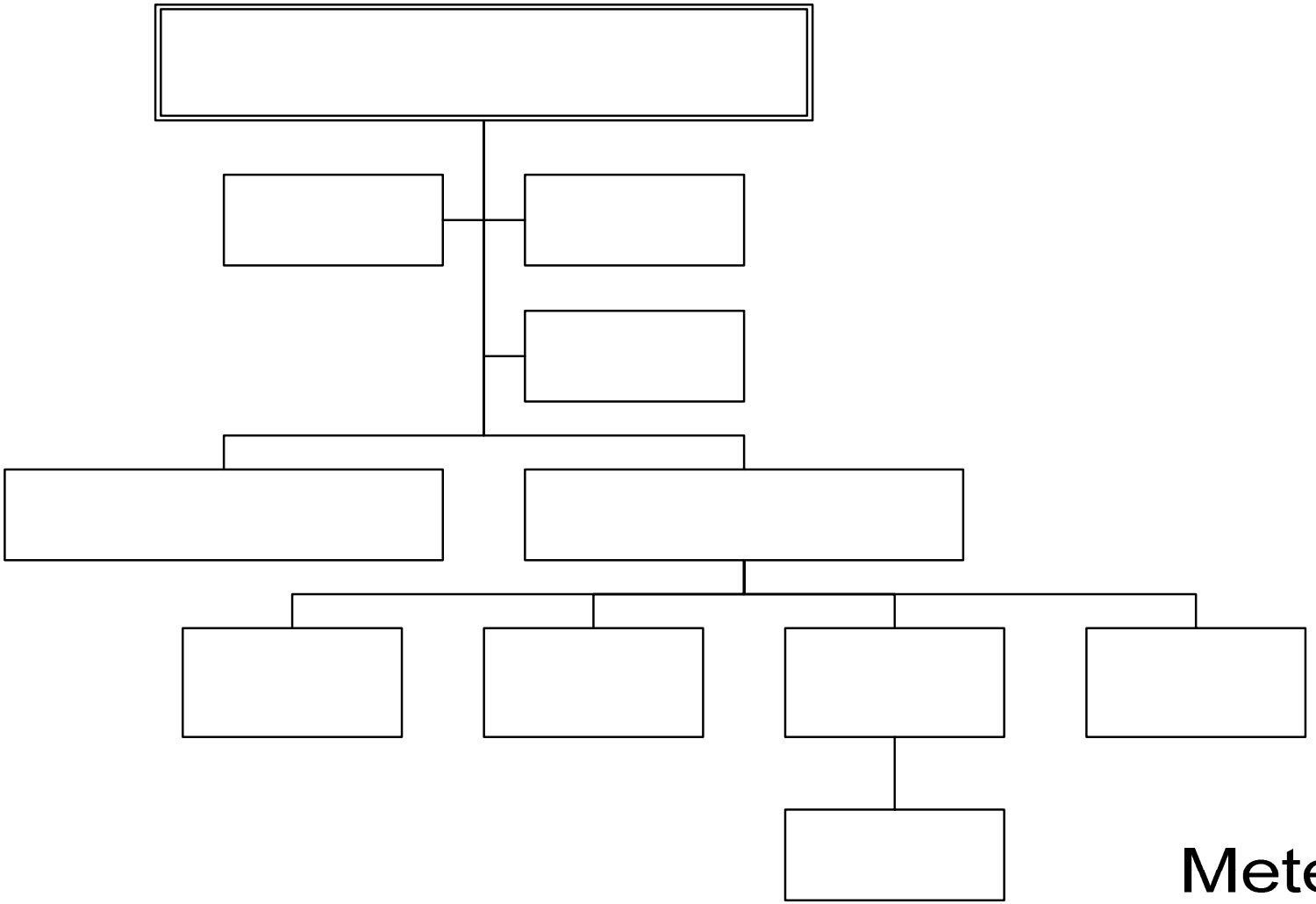
Independent Project Assessments

External assessments

The ODS Task Leader will ensure that adequate external assessments are conducted. The MAQ Group Leader may request assessments of any program or project within MAQ. These assessments may also include MAQ assessments of organizations that supply information to MAQ (e.g., SSS).

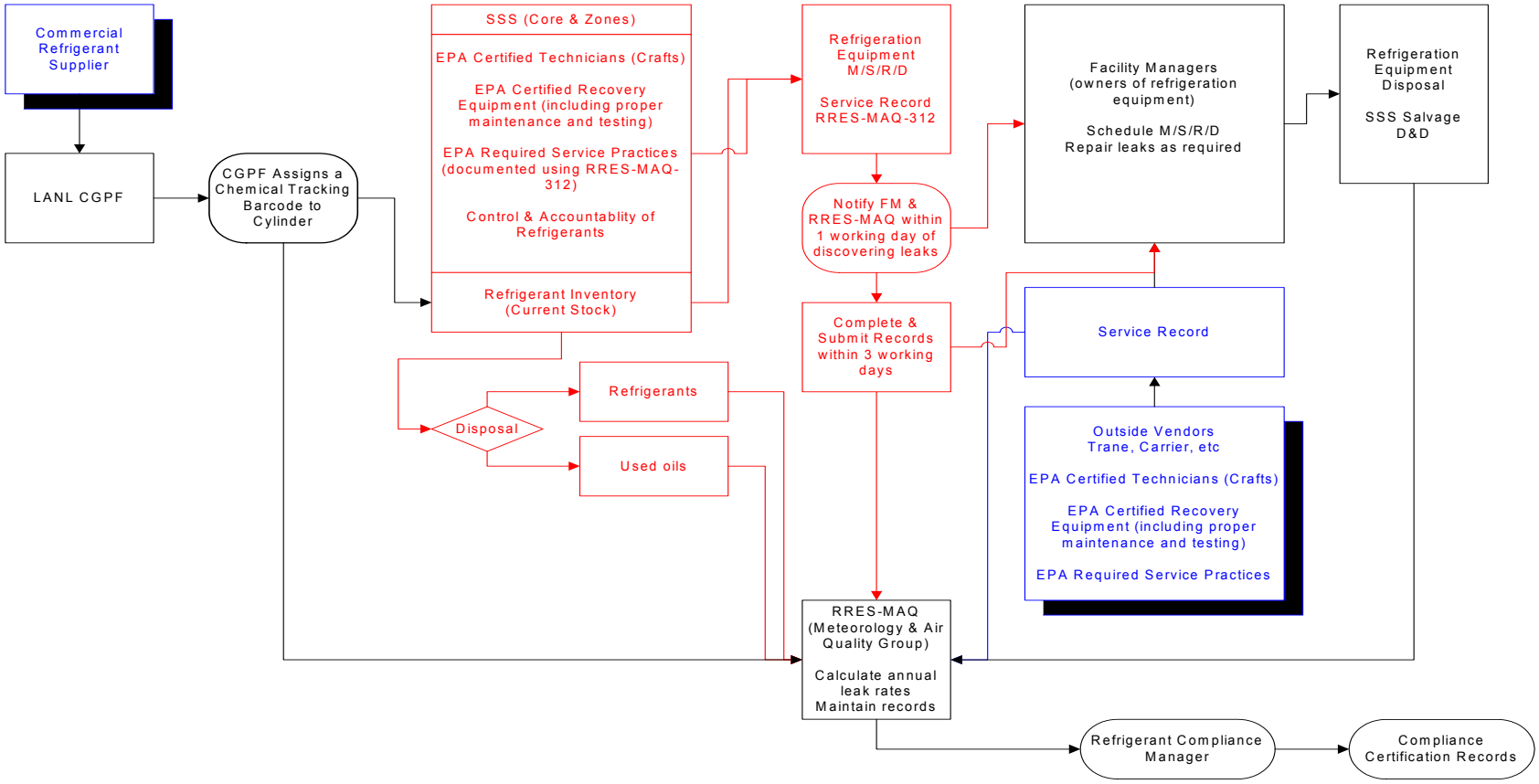
Appendix A

ODS Compliance Project Organization Chart



Appendix B

Refrigeration Interfaces



M/S/R/D - Maintenance, Service, Repair & Disposal
SSS - Support Services Subcontractor

Appendix C

Ozone Depleting Substances Records

Ozone Depleting Substance Procurement & Disposal

	Record Series	Who	Where	How Long
	Technician and Authorized Refrigerant Purchaser Letter to CGPF	Support Services Subcontractor (SSS)	CGPF & MAQ	Update as needed
	Refrigerant purchase records	CGPF	CGPF & MAQ; tracked in ChemLog & RCM	3 years
	Refrigerant Disposal records, indicating quantity sent, and names and addresses where sent	SSS	MAQ & SSS	3 years

Stationary Refrigeration Equipment

	Record Series	Who	Where	How Long
	Certification to EPA – Stationary Refrigeration	LANL	MAQ & SSS	Indefinite
	Technician Certification Certificates (issued from EPA approved organization)	Technicians	Technicians, MAQ & SSS	Indefinite
	Completed LANL Refrigeration Appliance/Equipment Inventory Form	Technicians or equipment owners	MAQ; within 3 working days of completion	3 years after final disposal of appliance
	Refrigerant SSS Service Order Form	SSS	MAQ; within 3 working days of completion	3 years
	Refrigerant Cylinder Action Form	SSS	MAQ	3 years
	Training documentation pursuant to ESH-17-024	SSS	SSS; enter into RCM	Update as required
	Recovery and recycling equipment information and proof of certification	SSS	SSS	Maintain for life of equipment

	Record Series	Who	Where	How Long
	Recovery and recycling equipment maintenance records, when required by manufacturer	SSS	SSS	3 years
	Refrigerant Cylinder Action Form	SSS	MAQ	3 years
	Refrigeration Appliance Salvage/Disposal Logs	SSS	MAQ	3 years

Motor Vehicle Air Conditioning

	Record Series	Who	Where	How Long
	Certification to EPA – Motor Vehicle Air Conditioning	LANL	MAQ & SSS	Indefinite
	EPA Technician Certification	SSS	MAQ & SSS	Indefinite
	Recovery and Recycling Equipment Inventory	SSS	MAQ & SSS	Update as required
	Service Records	SSS	SSS	3 Years

Halons

	Record Series	Who	Where	How Long
	Training Records	SSS	MAQ & SSS	Until halons phased out; update as required

Appendix D

Refrigerant Compliance Manager Software Responsibilities

	RCM Module	Who	From
1	Facility Owner	MAQ	Facility Management Databases
2	Facility	MAQ	Facility Management Databases
3	Appliance	MAQ	MAQ-311, Facility Master Equipment Listings (MEL), or other Facility Inventories
4	Technicians	SSS	EPA Certification Certificates and MAQ-024 Training Forms
5	Contractors	MAQ	SUP Division
6	Vendors	MAQ	SUP Division
7	Recovery/Recycling Equipment	SSS	Equipment manufacture literature
8	Service Records	MAQ	MAQ-312 forms or Contractor Service Records
9	Refrigerant Cylinders	MAQ	MAQ-312 forms
10	Refrigerant Cylinders – Purchase	MAQ	SUP Division
11	Refrigerant Cylinders – Disposal	MAQ	MAQ-312 forms

Note: MAQ may delegate responsibility for module update to the SSS.

Appendix E

Summary of Reporting Requirements

Report	By	To	When
EPA Stationary Refrigeration Certification (Subpart F)	LANL	EPA Region VI	One time requirement completed.
EPA Motor Vehicle Certification (Subpart B)	LANL	EPA Region VI	One time requirement completed.
DOE ODS Phase Out Annual Progress Report	FWO	DOE	By December 1st of each year.
ODS Usage Report	Pollution Prevention with MAQ input	DOE	Quarterly
Additional time to retrofit or replace refrigeration equipment	LANL	EPA Region VI	When required for retrofit and phase out projects.

Appendix F

References

Requirements and guidance documents:

Title 40 Code of Federal Regulations Part 82, Subpart A, "Phase-of Ozone Depleting Substances – Production and Consumption Controls"

Title 40 Code of Federal Regulations Part 82, Subpart B, "Servicing of Motor Vehicle Air Conditioners"

Title 40 Code of Federal Regulations Part 82, Subpart C, "Nonessential Products Rule"

Title 40 Code of Federal Regulations Part 82, Subpart D, "Federal Procurement"

Title 40 Code of Federal Regulations Part 82, Subpart E, "Labeling Requirements"

Title 40 Code of Federal Regulations Part 82, Subpart F, "Recycling and Emissions Reduction Rule"

Title 40 Code of Federal Regulations Part 82, Subpart G, "Significant New Alternatives Policy Program"

Title 40 Code of Federal Regulations Part 82, Subpart H, "Rule for Manufacture of Halon Blends, Intentional Release of Halon, Technician Training and Disposal of Halon and Halon-containing Equipment"

EO 13148, "Greening the Government through Leadership in Environmental Management"

DOE Order 414.1A, "Quality Assurance"

DOE Guidance, "A Plan and Guidance to Implement EO 13148 Requirements to Achieve Ozone-Depleting Substance Reductions," February 2002

LIR 230-05-01, "Operations and Maintenance Manual"

LIR 300-00-01, "Safe Work Practices"

LIR 300-00-02, "Documentation of Safe Work Practices,"

LIR 402-1200-01, "Pressure, Vacuum, and Cryogenic Systems"

LIR 404-10-01, "Air Quality Reviews"

LANL Operations and Maintenance Manual, Criterion 408 – EPA Compliance for Refrigeration Equipment

LANL Facility Engineering Manual, Chapter 6 – Mechanical

JCNNM 40-00-001, Refrigerant Compliance Management Plan

MAQ Air Quality documents: (Available at: http://airquality.lanl.gov)

MAQ-QMP, "Quality Management Plan for the Meteorology and Air Quality Group"

MAQ-022, "Preparation, Review, and Approval of Procedures"

MAQ-024, "Personnel Training"

MAQ-025, "Records Management"

MAQ-026, "Deficiency Reporting and Correcting"

MAQ-029, "Management Assessments"

MAQ-030, "Document Distribution"

MAQ-032, "Orienting New Employees"

MAQ-035, "Work Safety Review and Authorization"

MAQ-310, "SARA 313 Reporting"

MAQ-311, "Refrigeration Appliance Inventory"

MAQ-312, "Addressing Air Quality Requirements During Maintenance, Service, Repair, and Disposal of Refrigeration Appliances"

MAQ-335, "Motor Vehicle Refrigeration Systems Recordkeeping and Reporting"